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A CASE OF TRACHEAL OBSTRUCTION

Bob Doneley, BVSc, FACVSc (Avian Health)
West Toowoomba Vet Surgery
Toowoomba, Queensland, Australia

Tracheal obstruction is not an uncommon presentation in pet avian practice. The results are usually fatal, as relief of the obstruction in patients weighing less than 100 g is technically very difficult. This paper reports a successful outcome of tracheal obstruction in a cockatiel (*Nymphicus hollandicus*).

CASE REPORT

The patient was a young adult bird, kept as an indoor pet and fed a seed-only diet. It was presented after-hours for an acute onset of dyspnea. On presentation the bird had increased respiratory effort: it was mouth breathing; had a pronounced sternal lift and tail bobbing; and its head was stretched forward. It was very weak. The bird was otherwise in good body condition, with no palpable abdominal swelling. It had an audible respiratory noise (an inspiratory squeak) and had minimal handling tolerance.

Differential diagnoses at this time included tracheal obstruction (an inhaled seed, aspergilloma, or bacterial granuloma); severe lung disease (aspergillosis, bacterial pneumonia, aspiration pneumonia); air sac disease (chlamydiosis, aspergillosis); and "extra-respiratory" disease (liver enlargement, yolk-peritonitis, ascites, or neoplasia). The bird's respiratory distress precluded much in the way of diagnostics, but the clinical presentation and history strongly suggested an acute tracheal obstruction.

The bird was gently restrained and pre-oxygenated via a facemask. It was then induced with 5% Isoflurane. A skin incision was made caudal to the left leg, at the juncture of the last rib and the *flexor crura medialis* muscle. Blunt dissection through the abdominal wall gained entry into the caudal thoracic air sac. A 2-mm non-cuffed endotracheal tube was inserted into this air sac and sutured in place, and anaesthesia was maintained through this tube with intermittent positive pressure ventilation.

Once the bird was stabilised via this air sac catheter a 2.7-mm rigid endoscope was introduced through the glottis into the trachea. A millet seed was observed wedged tightly in the trachea, midway along its length. This confirmed the diagnosis of acute tracheal obstruction.

Several unsuccessful attempts were made to dislodge the seed via suction applied with a 20-ml syringe and 14-g intravenous catheter. After these attempts had failed a 24-g intravenous catheter was introduced into the trachea caudal to the obstruction. The metal stylet was withdrawn and the catheter advanced cranially towards the seed. Pushing against it physically dislodged the seed. Once it was loose, a 10-ml syringe of air was attached to the catheter hub and the air expelled in a sharp movement that literally "blew" the seed out of the trachea into the pharynx where it was recovered.

The bird was treated with meloxicam (Metacam: 0.2 mg/kg BID) and enrofloxacin (Baytril: 10 mg/kg BID) for 3 days to minimize any tracheal swelling and prevent infection. The air sac catheter was maintained for 24 hours and then removed. The bird recovered uneventfully, and continues to do well on a formulated diet.

DISCUSSION

Tracheal obstruction with a millet seed is not uncommon in pet cockatiels. The avian trachea is widest from the glottis to a point approximately 1/3 along its length. After this point it narrows until the bifurcation at the syrinx. An inhaled millet seed will, depending on its size, lodge somewhere from this point of narrowing down to the syrinx and occasionally into one of the primary bronchi. In this particular case the bird was fortunate in that the inhaled seed was too large to pass down to the syrinx or beyond; in those cases the outcome is almost invariably fatal.

Successful treatment in these cases requires good access to the trachea without compromising the bird's breathing. Fortunately, the unique anatomy of the avian respiratory tract allows ventilation through the caudal thoracic air sac, enabling anesthesia and adequate oxygenation to be maintained while allowing unrestricted access to the head and neck.

This case demonstrates that acute tracheal obstruction in a cockatiel can be managed successfully via air sac catheterization, endoscopy, and ingenuity. Although the outcome in this case was good, not all cases are so fortunate. Prompt and aggressive treatment saw this patient return to complete health.